

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANTS: Salemi et al. EXAMINER: Cordray

ATTY. DOCKET NO.: MEG-P-03-001 GROUP ART UNIT: 1731

FILING DATE: September 10, 2003 SERIAL NO.: 10/659,089

INVENTION: "AN INDENTED ANTIMICROBIAL PAPER AND A PROCESS FOR

MAKING AND USING THE SAME"

Mail Stop Appeal Brief-Patents Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

APPELLANTS' APPEAL BRIEF TRANSMITTAL LETTER

SIR/MADAM:

Appellants submit herewith Appellant's Appeal Brief in support of the Notice of Appeal filed January 25, 2008. Appellant encloses a check for \$255.00 for submission of this Appeal Brief. Appellant authorizes the Patent Office to charge any fees that may be due and owing or to credit any overpayment to Deposit Account No. 50-0595. A duplicate copy of this sheet is enclosed for this purpose.

Respectfully submitted,

X(Reg. No. 35,018

Brian M. Mattson

Patents+TMS

A Professional Corporation

2849 W. Armitage Ave.

Chicago, IL 60647 Tel: 773/772-6009

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CERTIFICATE OF MAILING

I hereby certify that this APPEAL BRIEF with CLAIMS APPENDIX, EVIDENCE APPENDIX, RELATED PROCEEDINGS APPENDIX AND SUPPLEMENTAL APPENDIX CONTAINING EXHIBITS A, B, C, D, E, F and G are being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Appeal Brief-Patents, Commissioner for Patents, Alexandria, VA 22313 on March 13, 2008.

Brian M. Mattson (Reg / No.

35,018)



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APPEAL BRIEF

SIR/MADAM:

This Appeal Brief is submitted in support of the Notice of Appeal filed on January 25, 2008. The Appeal was taken from the Final Rejection dated October 26, 2007.

I. REAL PARTY IN INTEREST

MicrobeGuard Corporation is the real party in interest in this Appeal.

II. RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences that may directly affect, may be directly affected by, or may have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 30-51 and 53-55 are pending in this patent application. In a Final Rejection dated January 1, 2007, the Examiner indicated that Claims 15-19 would be allowable if rewritten in independent

form including the limitations of the base claim and any intervening claims. To this end, Appellants cancelled Claims 1-29, added new Claims 30-34 incorporating dependent Claims 15-19 into independent Claim 12 and paid the fees associated with addition of the new Claims. In an Office Action dated May 30, 2007, the Examiner withdrew the allowability of the subject matter of Claims 30-34. In response, Appellants amended Claims 30-34 and added Claims 35-51 and 53-55 directed to the subject matter of cancelled Claims 1-29. Claims 35-51 and 53-55 were finally rejected by the Examiner in a Final Rejection dated October 26, 2007 and are hereby on appeal. A copy of the claims which are subject to this appeal are appended hereto as the Claims Appendix. The Final Rejection dated October 26, 2007 is appended hereto as Exhibit A of the Supplemental Appendix.

IV. STATUS OF AMENDMENTS

All amendments have been entered in this patent application. Claims 31, 46, 49, 50 and 53-55 were amended after the Final Rejection. An Advisory Action dated January 22, 2008 indicated that the amendments were entered and the rejection of Claims 31, 46, 49 and 50 under 35 U.S.C. §112, second paragraph, and the objection to Claims 53-55 were withdrawn. The Advisory Action dated January 22, 2008 is appended hereto as Exhibit B of the Supplemental Appendix.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention provides an indented antimicrobial paper and a process for making and using the same.

Independent Claim 30 defines a process for making a paper. The process requires providing a sheet having a first side and a second side wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane (16, FIG. 2). Further, the process requires connecting a water resistant layer to the first side of the sheet (22, FIG. 2); and scoring the water resistant layer. Still further, the process requires connecting a first antimicrobial layer (4, FIG. 2) to the water resistant layer wherein the water resistant layer is located between the antimicrobial layer and the sheet wherein the first antimicrobial layer is made from polyethylene having silver zeolite (22 located between 4 and 16, FIG. 2). Yet further, the process requires connecting a second antimicrobial layer to the second side of the sheet wherein the second antimicrobial layer is made from polyethylene having silver zeolite (page 20, lines 26-29; see also Moreover, the process requires providing a 4b in FIG. 4). plurality of depressions uniformly spaced across the first side of the sheet (7, FIG. 2). See also page 17, line 30 to page 19, line 9.

Independent Claim 31 defines a process for making a paper.

The process requires providing a sheet having a first side and a

second side wherein the sheet is defined by a length and a width wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane (16c, FIG. 7). Still further, the process requires connecting an antimicrobial layer to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite (4, FIG. 7); connecting a water resistant layer to the second side of the sheet; and scoring the water resistant layer (22b, FIG. 7). Moreover, the process requires connecting a second antimicrobial layer to the water resistant layer wherein the second antimicrobial layer is made from polyethylene having silver zeolite wherein the water resistant layer is located between the second antimicrobial layer and the sheet (page 20, lines 26-29; see also 4b in FIG. 4). See also page 24, line 14 to page 26, line 12.

Independent Claim 32 defines a process for making a paper. The process requires providing a sheet (16, FIG. 6) having a first side and a second side wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane. Still further, the process requires connecting an antimicrobial layer (4, FIG. 6) to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite; and connecting a plurality of water resistant layers (22a and 22b, FIG. 6) to the first side of the sheet wherein the plurality of water resistant layers is located between the

antimicrobial layer and the sheet. Moreover, the process requires providing a plurality of channels (7, FIG. 6) in the sheet wherein the plurality of channels extend an entirety of the length of the sheet. See also page 22, line 28 to page 24, line 13.

Independent Claim 33 defines a process for making a paper. The process requires providing a sheet (16a, FIG. 5) having a first side and a second side wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane. Further, the process requires connecting an antimicrobial layer (4, FIG. 5) to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite. Still further, the process requires adhering a paper layer (16b, FIG. 5) to the first side of the sheet wherein the paper layer is located between the antimicrobial layer and the sheet. Moreover, the process requires providing a plurality of depressions (7, FIG. 5) in the sheet wherein the plurality of depressions are in rows extending an entirety of the length of the sheet. See also page 21, line 21 to page 22, line 27.

Independent Claim 34 defines a process for making a paper. The process requires providing a sheet having a first side and a second side wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane (16b, FIG. 10). Further, the process requires connecting an antimicrobial layer (4, FIG. 10) to the first side of the sheet

wherein the antimicrobial layer is made of polyethylene having silver zeolite. Still further, the process requires adhering a plurality of water resistant layers (22b, 22c and/or 22d, FIG. 10) to the first side of the sheet; and adhering a paper layer (16c, FIG. 10) to the sheet wherein the plurality of water resistant layers are located between the antimicrobial layer and the sheet. Moreover, the process requires providing a plurality of depressions uniformly spaced across the first side of the sheet (7, FIG. 10). See also page 28, line 13 to page 30, line 23.

Independent Claim 35 defines a paper for providing a sanitized surface. The paper requires a base (16, FIG. 2) defined by a length and a width wherein the base has a top side and a bottom side wherein the bottom side is opposite the top side and further wherein the base forms a plane wherein the base has a plurality of depressions (7, FIG. 2) uniformly spaced across the base over the length of the base and the width of the base. Further, the paper requires an antimicrobial surface (4, FIG. 2) connected to the top side of the base wherein the antimicrobial surface covers the top side wherein the antimicrobial surface has silver zeolite. Still further, the paper requires a first water resistant layer (22, FIG. 2) located between the base and the antimicrobial surface. See also page 17, line 30 to page 19, line 9.

Independent Claim 44 defines a process for making a paper. The process requires providing a sheet (16, FIG. 2) having a first side

and a second side wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane. Further, the process requires connecting a first water resistant layer (22, FIG. 2) to the first side of the sheet. Still further, the process requires connecting an antimicrobial layer (4, FIG. 2) to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite wherein the first water resistant layer is located between the sheet and the antimicrobial layer. Moreover, the process requires forming channels (7, FIG. 2) in the sheet wherein the channels are spaced uniformly across the sheet. See also page 17, line 30 to page 19, line 9.

Independent Claim 51 defines a method for using a paper to protect against contamination. The method requires providing a sheet having a perimeter wherein the sheet has a bottom surface (16a, FIG. 5) and a top surface (16b, FIG. 5) wherein the top surface is opposite the bottom surface wherein an antimicrobial surface (4, FIG. 5) substantially covers the top surface wherein a water resistant layer (22, FIG. 5) resides between the top surface and the bottom surface and further wherein the sheet is made of a paper having a weight range between sixteen and a half pounds and ninety pounds (page 14, lines 27-28) wherein the sheet forms a plane and further wherein the antimicrobial surface is made of polyethylene having silver zeolite. Further, the method requires

forming indentations (7, FIG. 5) in the sheet wherein the indentations are spaced uniformly across the sheet. Still further, the method requires positioning the sheet on a surface wherein the bottom surface of the sheet is adjacent to the surface wherein the surface is a substantially flat surface wherein the sheet covers the surface (page 13, lines 33-34). Moreover, the method requires positioning an object on the antimicrobial surface wherein the object is within the perimeter of the sheet wherein the object is separated from the surface by the sheet (page 16, lines 2-10).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- 1. Claims 30, 31, 34, 36, 38, 39, 43-45, 47, 48 and 55 are rejected under 35 U.S.C. §112, first paragraph, for failing to comply with the written description requirement.
- 2. Claims 30, 33, 34, 37, 41, 44, 45, 47, 48, 51 and 53-55 are rejected under 35 U.S.C. §112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.
- 3. Claims 30-48 are rejected under 35 U.S.C. §103(a) as being unpatentable over Santelli (U.S. Patent App. Publication No. 2004/0071902) in view of Trogolo et al. (U.S. Patent No. 6,248,342) and Nakamura (U.S. Patent No. 6,179,141) and further in view of Otten et al. (U.S. Patent No. 6,274,232). See Santelli attached as Exhibit C of the Supplemental Appendix, Trogolo et al. attached as Exhibit D of the Supplemental Appendix, Nakamura attached as

Exhibit E of the Supplemental Appendix and *Otten et al.* attached as Exhibit F of the Supplemental Appendix.

4. Claims 49-51 and 53-55 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Santelli* in view of *Trogolo et al.* and *Nakamura* and further in view of *Otten et al.* and even further in view of *Weder* (U.S. Patent No. 5,921,062). See *Weder* attached as Exhibit G of the Supplemental Appendix.

VII. ARGUMENT

A. THE REJECTION OF CLAIMS 30, 31, 34, 36, 38, 39, 43-45, 47, 48 and 55 UNDER 35 U.S.C.§112, FIRST PARAGRAPH

Claims 30, 31, 34, 36, 38, 39, 43-45, 47, 48 and 55 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

In the Final Rejection, the Examiner stated:

Claims 30-31, 34, 36, 38-39, 43-45 and 47-48 recite papers and methods for making papers having combinations of layers not disclosed in the originally filed Specification and Claims. Although papers and processes are described for combining some of the layers in a particular order, the specific combination of layers, adhesives and scoring recited in the rejected claims are not described.

In the Final Rejection, the Examiner further stated:

Claims 30 and 34 recite "providing a plurality of depressions uniformly spaced across the first side of the sheet." The instant Specification does not disclose a plurality of depressions uniformly spaced across the first side of the sheet.

(See Final Rejection, Page 3 of Exhibit A of the Supplemental Appendix.)

In the Final Rejection, the Examiner further stated:

New claim 55 recites that the liquid separated from an object on the antimicrobial surface is located on the top surface of the sheet. [...] Nowhere is it stated that the liquid is located on the top surface of the sheet.

(See Final Rejection, Pages 3-4 of Exhibit A of the Supplemental Appendix.)

D. CLAIMS 30, 31, 34, 36, 38, 39, 43-45, 47, 48 and 55 ARE SUPPORTED BY THE SPECIFICATION AS FILED

With respect to the rejection of Claims 30, 31, 34, 36, 38, 39, 43-45, 47, 48 and 55 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement, Appellant respectfully submits that the claims are supported by the specification as filed for the reasons that follow. These claims do not stand or fall together because each claim requires a different combination of layers of the paper.

Contrary to the allegations of the Examiner, depressions and/or channels uniformly spaced across the paper are depicted in each figure of the application. According to MPEP \$2163, an applicant may show possession of an invention by disclosure of drawings that are sufficiently detailed to show that applicant was in possession of the claimed invention as a whole. See, e.g., Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1565 (Fed. Cir. 1991) ("drawings alone may provide a 'written description' of an invention as required by \$112"); In re Wolfensperger, 302 F.2d 950 (CCPA 1962) (the drawings of applicant's specification provided

sufficient written descriptive support for the claim limitation at issue); Autogiro Co. of America v. United States, 384 F.2d 391, 398 (Ct. Cl. 1967) ("In those instances where a visual representation can flesh out words, drawings may be used in the same manner and with the same limitations as the specification.")

Further, Claim 2 of the application as filed recited that "the plurality of depressions are uniform across the base". As stated in MPEP \$2163(I), "[i]t is now well accepted that a satisfactory description may be in the claims or any other portion of the originally filed specification." Therefore, the combination of layers as claimed is supported by the figures and text of the application as filed.

Claim 30 requires providing a sheet (16, FIG. 2); connecting a water resistant layer to the first side of the sheet (22, FIG. 2); connecting a first antimicrobial layer (4, FIG. 2) to the water resistant layer wherein the water resistant layer is located between the antimicrobial layer and the sheet (22 located between 4 and 16, FIG. 2); connecting a second antimicrobial layer to the second side of the sheet ("the indented antimicrobial paper 40 may have the second antimicrobial layer 4b attached to the second side 34 of the base layer 16", page 20, lines 26-29; see also 4b in FIG. 4); and providing a plurality of depressions (7, FIG. 2) uniformly spaced across the first side of the sheet. Therefore, the application as filed supports the combination of layers required by

Claim 30.

Claim 31 requires providing a sheet (16c, FIG. 7); connecting an antimicrobial layer (4, FIG. 7) to the first side of the sheet; connecting a water resistant layer (22b, FIG. 7) to the second side of the sheet; and connecting a second antimicrobial layer to the water resistant layer wherein the water resistant layer is located between the second antimicrobial layer and the sheet ("the indented antimicrobial paper 40 may have the second antimicrobial layer 4b attached to the second side 34 of the base layer 16", page 20, lines 26-29; see also 4b in FIG. 4). Although additional layers are present in the embodiment generally shown in FIG. 7, the use of the transition phrase "comprising" is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. §2111.03; MPEP \$2163(II)(B) indicating MPEP see also "comprising" language should be applied in analysis under 35 U.S.C. Therefore, FIG. 7 clearly depicts the §112, first paragraph. combination of layers required by Claim 39.

Claim 34 requires providing a sheet (16b, FIG. 10); connecting an antimicrobial layer (4, FIG. 10) to the first side of the sheet; adhering a plurality of water resistant layers (22b, 22c and/or 22d, FIG. 10) to the first side of the sheet; adhering a paper layer (16c, FIG. 10) to the sheet wherein the plurality of water resistant layers are located between the antimicrobial layer and the sheet; and providing a plurality of depressions (7, FIG. 10)

uniformly spaced across the first side of the sheet. Although additional layers are present in the embodiment generally shown in FIG. 10, the use of the transition phrase "comprising" is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. MPEP \$2111.03; see also MPEP \$2163(II)(B) indicating how "comprising" language should be applied in analysis under 35 U.S.C. \$112, first paragraph. Therefore, FIG. 10 clearly depicts the combination of layers required by Claim 34.

Claim 36 requires a base (16, FIG. 2) wherein the base has a plurality of depressions (7, FIG. 2) uniformly spaced across the base; an antimicrobial surface (4, FIG. 2) connected to the top side of the base; a first water resistant layer (22, FIG. 2) located between the base and the antimicrobial surface (22 located between 16 and 4); and an antimicrobial layer connected to the bottom surface of the base ("the indented antimicrobial paper 40 may have the second antimicrobial layer 4b attached to the second side 34 of the base layer 16", page 20, lines 26-29; see also 4b in FIG. 4). Therefore, the application as filed supports the combination of layers required by Claim 36.

Claim 38 requires a base (16a, FIG. 6); an antimicrobial surface (4, FIG. 6) connected to the top side of the base wherein the antimicrobial surface covers the top side wherein the antimicrobial surface has silver zeolite; and a first water resistant layer located between the base and the antimicrobial

surface (22b located between 16a and 4, FIG. 6) wherein the first water resistant layer is connected by an adhesive to a top side of a paper layer (16b, FIG. 6) connected to the top side of the base. Therefore, FIG. 6 clearly depicts the combination of layers required by Claim 38.

Claim 39 requires a base (16b, FIG. 7); an antimicrobial surface connected to the top side of the base (4 connected to top side of 16b, FIG. 7) wherein the antimicrobial surface covers the top side wherein the antimicrobial surface has silver zeolite; a first water resistant layer located between the base and the antimicrobial surface (22b located between 4 and 16b, FIG. 7); and a second water resistant layer connected to the bottom side of the base (22a connected to bottom side of 16b, FIG. 7). additional layers are present in the embodiment generally shown in in FIG. 7, the use of the transition phrase "comprising" is inclusive or open-ended and does not exclude additional, unrecited method steps. MPEP §2111.03; see also \$2163(II)(B) indicating how "comprising" language should be applied in analysis under 35 U.S.C. §112, first paragraph. Therefore, FIG. 7 clearly depicts the combination of layers required by Claim 39.

Claim 43 requires a base (16, FIG. 9); an antimicrobial surface (4, FIG. 9) connected to the top side of the base wherein the antimicrobial surface covers the top side wherein the antimicrobial surface has silver zeolite; a first water resistant

layer located between the base and the antimicrobial surface (22a located between 16 and 4, FIG. 9); and a second water resistant layer connected to the antimicrobial surface (22b connected to 4, FIG. 9). Therefore, FIG. 9 clearly depicts the combination of layers required by Claim 43.

Claim 44 requires providing a sheet (16, FIG. 2); connecting a first water resistant layer (22, FIG. 2) to the first side of the sheet; connecting an antimicrobial layer (4, FIG. 2) to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite wherein the first water resistant layer is located between the sheet and the antimicrobial layer; and forming channels (7, FIG. 2) in the sheet wherein the channels are spaced uniformly across the sheet. Therefore, FIG. 2 clearly depicts the combination of layers required by Claim 44.

Claim 45 requires providing a sheet (16b, FIG. 7); connecting a first water resistant layer (22b, FIG. 7) to the first side of the sheet; connecting an antimicrobial layer (4, FIG. 7) to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite wherein the first water resistant layer is located between the sheet and the antimicrobial layer (22b located between 16b and 4); forming channels in the sheet wherein the channels are spaced uniformly across the sheet (7, FIG. 7); and connecting a second water resistant layer (22a, FIG. 7) to the second side of the sheet. Although additional

layers are present in the embodiment generally shown in FIG. 7, the use of the transition phrase "comprising" is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. MPEP \$2111.03; see also MPEP \$2163(II)(B) indicating how "comprising" language should be applied in analysis under 35 U.S.C. \$112, first paragraph. Therefore, FIG. 7 clearly depicts the combination of layers required by Claim 45.

Claim 47 requires providing a sheet (16b, FIG. 7); connecting a first water resistant layer (22b, FIG. 7) to the first side of the sheet; connecting an antimicrobial layer (4, FIG. 7) to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite wherein the first water resistant layer is located between the sheet and the antimicrobial layer (22b located between 16b and 4); forming channels in the sheet wherein the channels are spaced uniformly across the sheet (7, FIG. 7); connecting a second water resistant layer (22a, FIG. 7) to the second side of the sheet; and adhering a second antimicrobial surface to the second side of the sheet. Therefore, the application as filed supports the combination of layers required by Claim 47.

Claim 48 requires providing a sheet (16b, FIG. 7); connecting a first water resistant layer (22b, FIG. 7) to the first side of the sheet; connecting an antimicrobial layer (4, FIG. 7) to the first side of the sheet wherein the antimicrobial layer is made of

polyethylene having silver zeolite wherein the first resistant layer is located between the sheet and the antimicrobial layer (22b located between 16b and 4); forming channels in the sheet wherein the channels are spaced uniformly across the sheet (7, FIG. 7); connecting a second water resistant layer (22a, FIG. 7) to the second side of the sheet; and connecting a paper layer (16c, FIG. 7) to the first side of the sheet wherein the antimicrobial layer is connected to the paper layer (4 connected to Although additional layers are present in the 16c, FIG. 7). embodiment generally shown in FIG. 7, the use of the transition phrase "comprising" is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. MPEP \$2111.03; see also MPEP §2163(II)(B) indicating how "comprising" language should be applied in analysis under 35 U.S.C. §112, first paragraph. Therefore, FIG. 7 clearly depicts the combination of layers required by Claim 47.

Claim 55 requires separating a liquid from the object on the antimicrobial surface wherein the liquid is located on the top surface of the sheet. Newly added claim limitations may be supported by inherent disclosure by the specification. MPEP \$2163(I)(B). The claimed invention "separates a liquid from the object on the antimicrobial surface wherein the liquid is associated with the indented texture of the sheet" (page 8, lines 4-7). One skilled in the art would recognize that the embodiment

of Claim 55 that has a water resistant layer between the top surface and the bottom surface of the sheet would maintain liquid associated with the sheet on the top surface of the sheet due to the hydrophobicity of the water resistant layer. Therefore, the application as filed supports Claim 55.

In view of the foregoing, the rejection of Claims 30, 31, 34, 36, 38, 39, 43-45, 47, 48 and 55 under 35 U.S.C. §112, first paragraph, is improper and should be reversed.

C. THE REJECTION OF CLAIMS 30, 34, 37, 41, 43, 45, 47, 48, 51 and 53-55 UNDER 35 U.S.C. §112, SECOND PARAGRAPH

Claims 30, 34, 37, 41, 43, 45, 47, 48, 51 and 53-55 stand rejected under 35 U.S.C. §112, second paragraph, as failing to particularly point out and distinctly claim the subject matter which Appellant regards as the invention.

In the Final Rejection, the Examiner stated:

The title and drawings reveal an indented multilayered antimicrobial paper, not a paper only having channels or depressions in the base sheet or in one side of the base sheet. [...] From the conflicting disclosures, it is not clear how the indentations are intended to be incorporated into the antimicrobial paper.

(See Final Rejection, Page 4 of Exhibit A of the Supplemental Appendix.)

In the Final Rejection, the Examiner further stated:

Claim 37 [..] fails to recite the location of the paper layer in relation to the first water resistant layer, which is also located between the antimicrobial surface and the base, thus making the structure of the paper indefinite.

In the Final Rejection, the Examiner further stated:

Claim 41 [..] fails to recite the location of the plurality of paper layers in relation to the first water resistant layer, which is also located between the antimicrobial surface and the base, thus making the structure of the paper indefinite.

(See Final Rejection, Page 5 of Exhibit A of the Supplemental Appendix.)

In the Final Rejection, the Examiner further stated:

Claim 43 [..] fails to recite whether the second water resistant layer is connected to the top side or the bottom side of the antimicrobial surface, thus making the structure of the paper indefinite.

In the Final Rejection, the Examiner further stated:

Claim 48 [..] fails to recite the location of the paper layer in relation to the first water resistant layer, which is located between the antimicrobial structure and the base, thus making the structure of the paper indefinite.

(See Final Rejection, Page 6 of Exhibit A of the Supplemental Appendix.)

In the Final Rejection, regarding Claim 51, the Examiner further stated:

[I]t is not clear how the water resistant layer can reside between the top and bottom surfaces of the sheet layer. [...] It is not clear how a step of forming indentations in the sheet relates to a method for using the paper to protect against contamination.

(See Final Rejection, Pages 6-7 of Exhibit A of the Supplemental Appendix.)

In the Final Rejection, regarding Claim 53, the Examiner further stated:

[I]t is not clear if the intent is to wrap the antimicrobial surface, which one layer of the paper, around the object or if the entire paper comprising the antimicrobial surface is wrapped around the object.

(See Final Rejection, Page 7 of Exhibit A of the Supplemental Appendix.)

D. CLAIMS 30, 34, 37, 41, 43, 45, 47, 48, 51 and 53-55 ARE NOT INDEFINITE FOR FAILING TO PARTICULARLY POINT

OUT AND DISTINCTLY CLAIM THE SUBJECT MATTER WHICH APPELLANT REGARDS AS THE INVENTION

With respect to the rejection of Claims 30, 32-34, 37, 41, 44, 45, 47, 48, 51 and 53-55 under 35 U.S.C. §112, second paragraph, Appellant asserts that the claims are not indefinite for failing to particularly point out and distinctly claim the subject matter which Appellant regards as the invention for the reasons that follow. These claims do not stand or fall together because each claim requires a different combination of layers of the paper.

With respect to the rejection of Claims 30, 32-34 and 44, the Examiner alleges that the "title and drawings reveal an indented multilayered antimicrobial paper, not a paper only having channels or depressions in the base sheet or in one side of the base sheet" (emphasis added). Appellant respectfully submits that the Examiner appears to be arguing a claim limitation that is not present, namely channels or depressions only in the base sheet or in one side of the base sheet. The claims do not require channels or depressions only in the base sheet or in one side of the base sheet. The Examiner also alleges that the application has

"conflicting disclosures" regarding the indentations (Final Office Action dated 10/26/2007, page 5). Appellant submits that having indentations in the base sheet and having indentations in the paper as a whole are not conflicting because the indentations are not required to be <u>only</u> in the base sheet.

With respect to the rejection of Claims 37, 41, 43 and 48, it is well settled that the mere presence of alternatives in a claim does not necessarily render the claim indefinite. MPEP \$2173.05(h); see also Ex parte Head, 214 USPQ 551 (Bd.App.1981) and In re Gaubert, 524 F.2d 1222, 187 USPQ 664 (CCPA1975). "A claim is indefinite if its legal scope is not clear enough that a person of ordinary skill in the art could determine whether a particular composition infringes or not." Geneva Pharm., Inc. and Teva Pharm. USA, Inc. v. GlaxoSmithKline, PLC, 349 F.3d 1373 (Fed. Cir. 2003).

The alternatives present in Claims 37, 41, 43 and 48 do not render the boundaries of the claimed invention undeterminable. In Claims 37 and 48, the paper layer and the first water resistant layer are both located between the antimicrobial layer and the base, and the paper layer may be located above or below the first water resistant layer. In Claim 41, the plurality of paper layers and the first water resistant layer are both located between the antimicrobial layer and the base, and the first water resistant layer may be located above, below or within the plurality of paper layers. In Claim 43, the second water resistant layer may be

connected to the top side or the bottom side of the antimicrobial surface. Claims 37, 41, 43 and 48 clearly indicate which combinations of layers would infringe Claims 37, 41, 43 and 48. As noted above, the mere presence of alternatives in a claim does not necessarily render the claim indefinite. Accordingly, Claims 37, 41, 43 and 48 are not vague and indefinite under 35 U.S.C. 112, second paragraph.

With respect to the rejection of Claim 51, the Examiner alleges that "it is not clear how the water resistant layer can reside between the top and bottom surfaces of the sheet layer". FIG. 5 clearly shows a water resistant layer between the top surface and the bottom surface of the sheet. The Examiner further alleges that "[i]t is not clear how a step of forming indentations in the sheet relates to a method for using the paper to protect against contamination" (Final Office Action dated 10/26/2007, page In an earlier section of the Office Action, the Examiner states that "[i]t is apparent from the [...] instant Specification that the paper is designed to move liquids through the channels 7 from the indented microbial paper (i.e. the paper surface) to prevent liquid pooling on the indented antimicrobial paper" (Final Office Action dated 10/26/2007, page 4). Since the Examiner recognizes that the channels move liquids away from the paper surface, the relation of the indentations to prevention of contamination of objects placed on the paper surface is also clear.

Claim 51 particularly points out and distinctly claims the subject matter which Appellants regard as the invention. Since the Examiner alleges that Claims 54 and 55 inherent the indefiniteness of Claim 51, Claims 54 and 55 also particularly point out and distinctly claim the subject matter which Appellants regard as the invention.

With respect to the rejection of Claim 53, the Examiner alleges that "[i]t is not clear if the intent is to wrap the antimicrobial surface, which is one layer of the paper, around the object or if the entire paper comprising the antimicrobial surface is wrapped around the object" (Final Office Action dated 10/26/2007, page 7). Since the other layers of the paper are connected to the antimicrobial surface, wrapping the antimicrobial surface around the object inherently wraps the entire paper around the object. Since the layers are adhered to one another, one could not wrap the antimicrobial surface around the object without wrapping the entire paper around the object. "A claim is not defective when it states fewer than all of the steps that may be performed in practice of an invention." Smith & Nephew, Inc. v. Ethicon, Inc., 276 F.3d 1304, 1311, 61 USPQ2d 1065 (Fed. Cir. 2001).

In view of the foregoing, since Claims 30, 32-34, 37, 41, 44, 45, 47, 48, 51 and 53-55 particularly point out and distinctly claim the subject matter which Appellants regard as the invention,

the rejection of Claims 30, 34, 37, 41, 44, 45, 47, 48, 51 and 53-55 under 35 U.S.C. §112, second paragraph, is improper and should be reversed.

E. THE CITED REFERENCES AND REJECTIONS OF CLAIMS 30-48 UNDER 35 U.S.C.§103(a)

Independent Claims 30-35 and 44 and dependent Claims 36-43 and 45-48 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Santelli* in view of *Trogolo et al.* and *Nakamura* and further in view of *Otten et al.*

In the Final Rejection, the Examiner stated:

Santelli discloses a process for making a biocide containing laminate comprising: providing a plastic film having first and second sides, which are opposite one another, treating the first side of the film with a corona discharge (scoring) to make it receptive to adhesives, cold laminating (connecting) a paper sheet to the plastic film, associating a biocide [...] with the laminate.

(See Final Rejection, Pages 7-8 of Exhibit A of the Supplemental Appendix.)

In the Final Rejection, the Examiner further stated:

Santelli does not disclose an antimicrobial layer of polyethylene containing silver zeolite or a plurality of depressions or channels in the sheet.

In the Final Rejection, the Examiner further stated:

Trogolo et al and Nakamura do not disclose depressions or channels in the sheet. Otten et al discloses an absorbent and cut resistant sheet comprising multiple layers, including an absorbent layer, a polymeric cut resistant layer, a cover layer that inclused anti-bacterial agents and a liquid impervious backing layer. [...] The cut resistant layer has a plurality of openings punched, pressed or moulded into the layer to

provide drainage of liquids at the cutting surface to the surface of the lower absorbent layer.

(See Final Rejection, Page 10 of Exhibit A of the Supplemental Appendix.)

F. CLAIMS 30-48 WOULD NOT HAVE BEEN OBVIOUS UNDER 35 U.S.C. §103(a) TO ONE OF ORDINARY SKILL IN THE ART AT THE TIME OF APPELLANTS' INVENTION IN VIEW OF THE CITED REFERENCES, TAKEN SINGLY OR IN COMBINATION

With respect to the rejection of Claims 30-48 under 35 U.S.C. \$103(a) as being unpatentable over Santelli in view of Trogolo et al. and Nakamura and further in view of Otten et al., Appellants assert that the claims would not have been obvious to one of ordinary skill in the art in view of the cited references, taken singly or in combination, for the reasons that follow. These claims do not stand or fall together because each claim requires a different combination of layers of the paper.

As admitted by the Examiner, Santelli fails to teach the claimed invention. Santelli merely discloses a biocide-containing laminate fabricated from a paper-plastic laminate sheeting that is adhesively laminated. Santelli discloses only a paper-plastic laminate (page 3, paragraph 28), a plastic-paper-plastic laminate (page 3, paragraph 34), a plastic-plastic laminate (page 4, paragraph 35) and paper-plastic-plastic, paper-plastic-plastic-paper, paper-plastic-paper-plastic and paper-plastic-paper-plastic-paper laminates (page 5, paragraph 54). These laminates are in contrast to a first polyurethane antimicrobial layer attached to a

water resistant layer attached to a sheet attached to a second polyurethane antimicrobial layer, which provides the plastic-paper-plastic-plastic laminate of Claims 30 and 31. Santelli does not disclose a plastic-paper-plastic-plastic laminate. Moreover, Santelli does not disclose indentations or channels in the paper.

Trogolo et al. merely disclose an antibiotic low density polyethylene having silver zeolite. Trogolo et al. merely disclose dispersing antimicrobial particles in an adhesive coating applied to a high pressure laminate and do not remedy the deficiencies of Santelli with respect to the structure of the claimed invention.

Nakamura merely disclose a seal for a mouth of a container. The seal has a silver zeolite-containing laminate. The seal may be used in the cap of a container or fitted into the mouth of the container. Nakamura does not disclose a plastic-paper-plastic-plastic laminate or indentations or channels in the paper and does not remedy the deficiencies of Santelli and Trogolo et al. with respect to the structure of the claimed invention.

Otten et al. merely disclose an absorbent sheet material having a cut-resistant layer and a plurality of openings. The section cited by the Examiner, namely column 4, lines 45-56, states that each opening "extends from the cutting surface to the lower surface of the layer, and allows liquids that may be present at the cutting surface to travel through the cut-resistant layer and be absorbed by the absorbent layer". Further, Otten et al. do not

disclose a plastic-paper-plastic-plastic laminate.

Nowhere do Santelli, Trogolo et al., Nakamura or Otten et al., taken singly or in combination, teach or suggest connecting a water resistant layer to the first side of the sheet; scoring the water resistant layer; connecting a first antimicrobial layer to the water resistant layer wherein the water resistant layer is located between the antimicrobial layer and the sheet wherein the first antimicrobial layer is made from polyethylene having silver zeolite; connecting a second antimicrobial layer to the second side of the sheet wherein the second antimicrobial layer is made from polyethylene having silver zeolite as required by independent Claim 30. Moreover, nowhere do Santelli, Trogolo et al., Nakamura or Otten et al., taken singly or in combination, teach or suggest providing a plurality of depressions uniformly spaced across the first side of the sheet as required by independent Claim 30.

Nowhere do Santelli, Trogolo et al., Nakamura or Otten et al., taken singly or in combination, teach or suggest connecting an antimicrobial layer to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite; connecting a water resistant layer to the second side of the sheet; scoring the water resistant layer; and connecting a second antimicrobial layer to the water resistant layer wherein the second antimicrobial layer is made from polyethylene having silver zeolite wherein the water resistant layer is located between the second

antimicrobial layer and the sheet as required by independent Claim 31.

Nowhere do Santelli, Trogolo et al., Nakamura or Otten et al., taken singly or in combination, teach or suggest connecting an antimicrobial layer to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite; and connecting a plurality of water resistant layers to the first side of the sheet wherein the plurality of water resistant layers is located between the antimicrobial layer and the sheet as required by independent Claim 32. Moreover, nowhere do Santelli, Trogolo et al., Nakamura or Otten et al., taken singly or in combination, teach or suggest providing a plurality of channels in the sheet wherein the plurality of channels extend an entirety of the length of the sheet as required by independent Claim 32.

Nowhere do Santelli, Trogolo et al., Nakamura or Otten et al., taken singly or in combination, teach or suggest connecting an antimicrobial layer to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite; adhering a paper layer to the first side of the sheet wherein the paper layer is located between the antimicrobial layer and the sheet as required by independent Claim 33. Moreover, nowhere do Santelli, Trogolo et al., Nakamura or Otten et al., taken singly or in combination, teach or suggest providing a plurality of depressions in the sheet wherein the plurality of depressions are

in rows extending an entirety of the length of the sheet as required by independent Claim 33.

Nowhere do Santelli, Trogolo et al., Nakamura or Otten et al., taken singly or in combination, teach or suggest connecting an antimicrobial layer to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite; adhering a plurality of water resistant layers to the first side of the sheet; and adhering a paper layer to the sheet wherein the plurality of water resistant layers are located between the antimicrobial layer and the sheet as required by independent Claim 34. Moreover, nowhere do Santelli, Trogolo et al., Nakamura or Otten et al., taken singly or in combination, teach or suggest providing a plurality of depressions uniformly spaced across the first side of the sheet as required by independent Claim 34.

Nowhere do Santelli, Trogolo et al., Nakamura or Otten et al., taken singly or in combination, teach or suggest an antimicrobial surface connected to the top side of the base wherein the antimicrobial surface covers the top side wherein the antimicrobial surface has silver zeolite as required by independent Claim 35. Still further, the paper requires a first water resistant layer located between the base and the antimicrobial surface wherein the base has a plurality of depressions uniformly spaced across the base over the length of the base and the width of the base as required by independent Claim 35.

Nowhere do Santelli, Trogolo et al., Nakamura or Otten et al., taken singly or in combination, teach or suggest connecting a first water resistant layer to the first side of the sheet; connecting an antimicrobial layer to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite wherein the first water resistant layer is located between the sheet and the antimicrobial layer as required by independent Claim 44. Moreover, nowhere do Santelli, Trogolo et al., Nakamura or Otten et al., taken singly or in combination, teach or suggest forming channels in the sheet wherein the channels are spaced uniformly across the sheet as required by independent Claim 44.

Furthermore, a person of ordinary skill in the art would never have been motivated to combine the teachings of Santelli, Trogolo et al., Nakamura and Otten et al. in the manner suggested by the Patent Office in formulating the rejection under 35 U.S.C. \$103(a). Specifically, no teaching or suggestion exists to combine the teachings of Trogolo et al., Santelli, Nakamura and Otten et al. It is submitted that the question under \$103 is whether the totality of the art would collectively suggest the claimed invention to one of ordinary skill in this art. In re Simon, 461 F.2d 1387, 174 USPQ 114 (CCPA 1972).

That elements, even distinguishing elements, are disclosed in the art is alone insufficient. It is common to find elements somewhere in the art. Moreover, most if not all elements perform their ordained and expected functions. The test is whether the invention as a whole, in light of the teachings of the references in their entireties, would have been obvious to one of ordinary skill in the art at the time the invention was made. *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983).

It is insufficient that the art disclosed components of Appellants' invention, either separately or used in other combinations. A teaching, suggestion, or incentive must exist to make the combination made by Appellants. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1988).

With the analysis of the deficiencies of Santelli, Trogolo et al., Nakamura and Otten et al. in mind, as enumerated above, no reason or suggestion in the evidence of record exists why one of ordinary skill in the art would have been led to combine Santelli, Trogolo et al., Nakamura and Otten et al. to produce the claimed invention. Therefore, prima facie obviousness has not been established by the Patent Office as required under 35 U.S.C. §103.

Even assuming that one having ordinary skill in the art could somehow have combined the references applied by the Patent Office, the references still lack the novel features and steps positively recited in independent Claims 30-35 and 44. Accordingly, Appellants assert that the rejection of Claims 30-48 under 35 U.S.C. §103(a) is improper and should be reversed.

G. THE CITED REFERENCES AND REJECTIONS OF CLAIMS 49-51 AND 53-55 UNDER 35 U.S.C. §103(a)

Independent Claim 51 and dependent Claims 49, 50 and 53-55 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Santelli in view of Trogolo et al. and Nakamura and further in view of Otten et al. and even further in view of Weder.

In the Final Rejection, the Examiner stated:

Santelli, Trogolo et al, Nakamura and Otten et al do not disclose shredding the sheet or dividing the sheet into a plurality of sheets, nor do they disclose the method of using the paper to protect against contamination.

In the Final Rejection, the Examiner further stated:

Weder discloses that a plurality of packaging sheets can be connected an rolled. [...] The sheet can also be shredded into small pieces for decorative purposes.

(See Final Rejection, Pages 11-12 of Exhibit A of the Supplemental Appendix.)

H. CLAIMS 49-55 WOULD NOT HAVE BEEN OBVIOUS UNDER 35 U.S.C. §103(a) TO ONE OF ORDINARY SKILL IN THE ART AT THE TIME OF APPELLANTS' INVENTION IN VIEW OF THE CITED REFERENCES, TAKEN SINGLY OR IN COMBINATION

With respect to the rejection of Claims 49-55 under 35 U.S.C. \$103(a) as being unpatentable over Santelli in view of Trogolo et al. and Nakamura and further in view of Otten et al. and even further in view of Weder, Appellants assert that the claims would not have been obvious to one of ordinary skill in the art in view of the cited references, taken singly or in combination, for the reasons that follow. These claims do not stand or fall together

because each claim requires a different combination of layers of the paper.

Weder fails to remedy the deficiencies of Santelli, Trogolo et al. Nakamura and Otten et al. Weder merely disclose a breathable packaging material having a dessicant and/or an antimicrobial agent. Weder do not disclose a plastic-paper-plastic-plastic laminate or a plurality of channels or depressions in the sheet.

Moreover, a person of ordinary skill in the art would never have been motivated to combine the teachings of Santelli, Trogolo et al., Nakamura and Otten et al. in the manner suggested by the Patent Office in formulating the rejection under 35 U.S.C. §103(a). Specifically, no teaching or suggestion exists to combine the biocide-containing polyurethane disclosed in Trogolo et al., the laminates of Santelli, the silver zeolite of Nakamura and the openings of Otten et al. It is submitted that the question under \$103 is whether the totality of the art would collectively suggest the claimed invention to one of ordinary skill in this art. In re Simon, 461 F.2d 1387, 174 USPQ 114 (CCPA 1972).

That elements, even distinguishing elements, are disclosed in the art is alone insufficient. It is common to find elements somewhere in the art. Moreover, most if not all elements perform their ordained and expected functions. The test is whether the invention as a whole, in light of the teachings of the references in their entireties, would have been obvious to one of ordinary skill in the art at the time the invention was made. *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983).

It is insufficient that the art disclosed components of Appellants' invention, either separately or used in other combinations. A teaching, suggestion, or incentive must exist to make the combination made by Appellants. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1988).

With the analysis of the deficiencies of Santelli, Trogolo et al., Nakamura and Otten et al. in mind, as enumerated above, no reason or suggestion in the evidence of record exists why one of ordinary skill in the art would have been led to combine Santelli, Trogolo et al., Nakamura and Otten et al. to produce the claimed invention. Therefore, prima facie obviousness has not been established by the Patent Office as required under 35 U.S.C. §103.

Even assuming that one having ordinary skill in the art could somehow have combined the references applied by the Patent Office, the references still lack the novel features and steps positively recited in independent Claims 30-35 and 44. Accordingly, Appellants assert that the rejection of Claims 30-48 under 35 U.S.C. §103(a) is improper and should be reversed.

VIII. CONCLUSION

For the foregoing reasons, Appellants respectfully submit that

the rejection of Claims 30-51 and 53-55 is erroneous as a matter of law and fact and respectfully request the Board to reverse the rejection.

Respectfully submitted,

(Reg. No. 35,018)

Brian M. Martson

Attorney for Appellants

Patents+TMS

A Professional Corporation

2849 W. Armitage Ave.

Chicago, IL 60647

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1. CLAIMS APPENDIX

Claims 30-51 and 53-55

2. SUPPLEMENTAL APPENDIX

EXHIBIT A: Final Rejection dated October 26, 2007

EXHIBIT B: Advisory Action dated January 22, 2008

EXHIBIT C: U.S. Patent App. Publication No. 2004/0071902

to Santelli

EXHIBIT D: U.S. Patent No. 6,248,342 to Trogolo et al.

EXHIBIT E: U.S. Patent No. 6,179,141 to Nakamura

EXHIBIT F: U.S. Patent No. 6,274,232 to Otten et al.

EXHIBIT G: U.S. Patent No. 5,921,062 to Weder

3. EVIDENCE APPENDIX

NONE

4. RELATED PROCEEDINGS APPENDIX

NONE

CLAIMS APPENDIX

Claim 30: A process for making a paper, the process comprising the steps of:

providing a sheet having a first side and a second side wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane;

connecting a water resistant layer to the first side of the sheet;

scoring the water resistant layer;

connecting a first antimicrobial layer to the water resistant layer wherein the water resistant layer is located between the antimicrobial layer and the sheet wherein the first antimicrobial layer is made from polyethylene having silver zeolite;

connecting a second antimicrobial layer to the second side of the sheet wherein the second antimicrobial layer is made from polyethylene having silver zeolite; and

providing a plurality of depressions uniformly spaced across the first side of the sheet.

Claim 31: A process for making a paper, the process comprising the steps of:

providing a sheet having a first side and a second side wherein the sheet is defined by a length and a width wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane;

connecting an antimicrobial layer to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite;

connecting a water resistant layer to the second side of the sheet:

scoring the water resistant layer; and

connecting a second antimicrobial layer to the water resistant layer wherein the second antimicrobial layer is made from polyethylene having silver zeolite wherein the water resistant layer is located between the second antimicrobial layer and the sheet.

Claim 32: A process for making a paper, the process comprising the steps of:

providing a sheet having a first side and a second side wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane;

connecting an antimicrobial layer to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite;

connecting a plurality of water resistant layers to the first side of the sheet wherein the plurality of water resistant layers is located between the antimicrobial layer and the sheet; and

providing a plurality of channels in the sheet wherein the plurality of channels extend an entirety of the length of the sheet.

Claim 33: A process for making a paper, the process comprising the steps of:

providing a sheet having a first side and a second side wherein the second side is in a position opposite <u>to</u> the first side wherein the sheet is substantially flat and forms a plane;

connecting an antimicrobial layer to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite;

adhering a paper layer to the first side of the sheet wherein the paper layer is located between the antimicrobial layer and the sheet; and

providing a plurality of depressions in the sheet wherein the plurality of depressions are in rows extending an entirety of the length of the sheet.

Claim 34: A process for making a paper, the process comprising the steps of:

providing a sheet having a first side and a second side wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane;

connecting an antimicrobial layer to the first side of the

sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite;

adhering a plurality of water resistant layers to the first side of the sheet;

adhering a paper layer to the sheet wherein the plurality of water resistant layers are located between the antimicrobial layer and the sheet; and

providing a plurality of depressions uniformly spaced across the first side of the sheet.

Claim 35: A paper for providing a sanitized surface, the paper comprising:

a base defined by a length and a width wherein the base has a top side and a bottom side wherein the bottom side is opposite the top side and further wherein the base forms a plane wherein the base has a plurality of depressions uniformly spaced across the base over the length of the base and the width of the base; an antimicrobial surface connected to the top side of the base wherein the antimicrobial surface covers the top side wherein the antimicrobial surface has silver zeolite; and

a first water resistant layer located between the base and the antimicrobial surface.

Claim 36: The paper of Claim 35 further comprising:

an antimicrobial layer connected to the bottom surface of the base.

Claim 37: The paper of Claim 35 further comprising:

a paper layer connected to the top side of the base wherein the paper layer is located between the antimicrobial surface and the base.

Claim 38: The paper of Claim 35 wherein the first water resistant layer is connected by an adhesive to a top side of a paper layer connected to the top side of the base.

Claim 39: The paper of Claim 35 further comprising:

a second water resistant layer connected to the bottom side of the base.

Claim 40: The paper of Claim 35 further comprising:

a second water resistant layer connected to the top side of the base wherein the second water resistant layer is located between the base and the antimicrobial surface; and

a paper layer connected to the top side of the base wherein the paper layer is located between the first water resistant layer and the second water resistant layer.

Claim 41: The paper of Claim 35 further comprising:

a plurality of paper layers connected to the top side of the base wherein the plurality of paper layers is located between the antimicrobial surface and the base.

Claim 42: The paper of Claim 35 further comprising:

a paper layer connected to a top side of the water resistant layer wherein the paper layer is located between the antimicrobial surface and the base.

Claim 43: The paper of Claim 35 further comprising:

a second water resistant layer connected to the antimicrobial surface.

Claim 44: A process for making a paper, the process comprising the steps of:

providing a sheet having a first side and a second side wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane;

connecting a first water resistant layer to the first side of the sheet;

connecting an antimicrobial layer to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite wherein the first water resistant layer is located between the sheet and the antimicrobial layer; and

forming channels in the sheet wherein the channels are spaced uniformly across the sheet.

Claim 45: The process of Claim 44 further comprising the step of: connecting a second water resistant layer to the second side of the sheet.

Claim 46: The process of Claim 44 further comprising the step of: connecting the first water resistant layer to the second side of the antimicrobial layer.

Claim 47: The process of Claim 44 further comprising the step of: adhering a second antimicrobial surface to the second side of the sheet.

Claim 48: The process of Claim 44 further comprising the step of: connecting a paper layer to the first side of the sheet wherein the antimicrobial layer is connected to the paper layer.

Claim 49: The process of Claim 44 further comprising the step of: shredding the sheet, the first water resistant layer and the antimicrobial layer after connection of the sheet, the first water resistant layer and the antimicrobial layer.

Claim 50: The process of Claim 44 further comprising the step of: dividing the sheet into a plurality of sheets after connection of the sheet, the first water resistant layer and the antimicrobial layer.

Claim 51: A method for using a paper to protect against contamination, the method comprising the steps of:

providing a sheet having a perimeter wherein the sheet has a bottom surface and a top surface wherein the top surface is opposite the bottom surface wherein an antimicrobial surface substantially covers the top surface wherein a water resistant layer resides between the top surface and the bottom surface and further wherein the sheet is made of a paper having a weight range between sixteen and a half pounds and ninety pounds wherein the sheet forms a plane and further wherein the antimicrobial surface is made of polyethylene having silver zeolite;

forming indentations in the sheet wherein the indentations are spaced uniformly across the sheet;

positioning the sheet on a surface wherein the bottom surface of the sheet is adjacent to the surface wherein the surface is a substantially flat surface wherein the sheet covers the surface; and

positioning an object on the antimicrobial surface wherein the object is within the perimeter of the sheet wherein the object is separated from the surface by the sheet.

. . . .

- Claim 53: The process of Claim 51 further comprising the step of: wrapping the antimicrobial surface around the object.
- Claim 54: The process of Claim 51 further comprising the step of: enclosing the object within the sheet wherein the object is surrounded by the antimicrobial surface.
- Claim 55: The process of Claim 51 further comprising the step of: separating a liquid from the object on the antimicrobial surface wherein the liquid is located on the top surface of the sheet.

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1. CLAIMS APPENDIX

Claims 30-51 and 53-55

2. SUPPLEMENTAL APPENDIX

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EXHIBIT F: U.S. Patent No. 6,274,232 to Otten et al.

EXHIBIT G: U.S. Patent No. 5,921,062 to Weder

3. EVIDENCE APPENDIX

NONE

4. RELATED PROCEEDINGS APPENDIX

NONE

CLAIMS APPENDIX

Claim 30: A process for making a paper, the process comprising the steps of:

providing a sheet having a first side and a second side wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane;

connecting a water resistant layer to the first side of the sheet;

scoring the water resistant layer;

connecting a first antimicrobial layer to the water resistant layer wherein the water resistant layer is located between the antimicrobial layer and the sheet wherein the first antimicrobial layer is made from polyethylene having silver zeolite;

connecting a second antimicrobial layer to the second side of the sheet wherein the second antimicrobial layer is made from polyethylene having silver zeolite; and

providing a plurality of depressions uniformly spaced across the first side of the sheet.

Claim 31: A process for making a paper, the process comprising the steps of:

providing a sheet having a first side and a second side wherein the sheet is defined by a length and a width wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane;

connecting an antimicrobial layer to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite;

connecting a water resistant layer to the second side of the sheet;

scoring the water resistant layer; and

connecting a second antimicrobial layer to the water resistant layer wherein the second antimicrobial layer is made from polyethylene having silver zeolite wherein the water resistant layer is located between the second antimicrobial layer and the sheet.

Claim 32: A process for making a paper, the process comprising the steps of:

providing a sheet having a first side and a second side wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane;

connecting an antimicrobial layer to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite;

connecting a plurality of water resistant layers to the first side of the sheet wherein the plurality of water resistant layers is located between the antimicrobial layer and the sheet; and

providing a plurality of channels in the sheet wherein the plurality of channels extend an entirety of the length of the sheet.

Claim 33: A process for making a paper, the process comprising the steps of:

providing a sheet having a first side and a second side wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane;

connecting an antimicrobial layer to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite;

adhering a paper layer to the first side of the sheet wherein the paper layer is located between the antimicrobial layer and the sheet; and

providing a plurality of depressions in the sheet wherein the plurality of depressions are in rows extending an entirety of the length of the sheet.

Claim 34: A process for making a paper, the process comprising the steps of:

providing a sheet having a first side and a second side wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane;

connecting an antimicrobial layer to the first side of the

sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite;

adhering a plurality of water resistant layers to the first side of the sheet;

adhering a paper layer to the sheet wherein the plurality of water resistant layers are located between the antimicrobial layer and the sheet; and

providing a plurality of depressions uniformly spaced across the first side of the sheet.

Claim 35: A paper for providing a sanitized surface, the paper comprising:

a base defined by a length and a width wherein the base has a top side and a bottom side wherein the bottom side is opposite the top side and further wherein the base forms a plane wherein the base has a plurality of depressions uniformly spaced across the base over the length of the base and the width of the base; an antimicrobial surface connected to the top side of the base wherein the antimicrobial surface has silver zeolite; and

a first water resistant layer located between the base and the antimicrobial surface.

Claim 36: The paper of Claim 35 further comprising:

an antimicrobial layer connected to the bottom surface of the base.

Claim 37: The paper of Claim 35 further comprising:

a paper layer connected to the top side of the base wherein the paper layer is located between the antimicrobial surface and the base.

Claim 38: The paper of Claim 35 wherein the first water resistant layer is connected by an adhesive to a top side of a paper layer connected to the top side of the base.

Claim 39: The paper of Claim 35 further comprising:

a second water resistant layer connected to the bottom side of the base.

Claim 40: The paper of Claim 35 further comprising:

a second water resistant layer connected to the top side of the base wherein the second water resistant layer is located between the base and the antimicrobial surface; and

a paper layer connected to the top side of the base wherein the paper layer is located between the first water resistant layer and the second water resistant layer.

Claim 41: The paper of Claim 35 further comprising:

a plurality of paper layers connected to the top side of the base wherein the plurality of paper layers is located between the antimicrobial surface and the base.

Claim 42: The paper of Claim 35 further comprising:

a paper layer connected to a top side of the water resistant layer wherein the paper layer is located between the antimicrobial surface and the base.

Claim 43: The paper of Claim 35 further comprising:

a second water resistant layer connected to the antimicrobial surface.

Claim 44: A process for making a paper, the process comprising the steps of:

providing a sheet having a first side and a second side wherein the second side is in a position opposite to the first side wherein the sheet is substantially flat and forms a plane;

connecting a first water resistant layer to the first side of the sheet;

connecting an antimicrobial layer to the first side of the sheet wherein the antimicrobial layer is made of polyethylene having silver zeolite wherein the first water resistant layer is located between the sheet and the antimicrobial layer; and

forming channels in the sheet wherein the channels are spaced uniformly across the sheet.

Claim 45: The process of Claim 44 further comprising the step of: connecting a second water resistant layer to the second side of the sheet.

Claim 46: The process of Claim 44 further comprising the step of: connecting the first water resistant layer to the second side of the antimicrobial layer.

Claim 47: The process of Claim 44 further comprising the step of: adhering a second antimicrobial surface to the second side of the sheet.

Claim 48: The process of Claim 44 further comprising the step of: connecting a paper layer to the first side of the sheet wherein the antimicrobial layer is connected to the paper layer.

shredding the sheet, the first water resistant layer and the antimicrobial layer after connection of the sheet, the first water resistant layer and the antimicrobial layer.

Claim 49: The process of Claim 44 further comprising the step of:

Claim 50: The process of Claim 44 further comprising the step of: dividing the sheet into a plurality of sheets after connection of the sheet, the first water resistant layer and the antimicrobial layer.

Claim 51: A method for using a paper to protect against contamination, the method comprising the steps of:

providing a sheet having a perimeter wherein the sheet has a bottom surface and a top surface wherein the top surface is opposite the bottom surface wherein an antimicrobial surface substantially covers the top surface wherein a water resistant layer resides between the top surface and the bottom surface and further wherein the sheet is made of a paper having a weight range between sixteen and a half pounds and ninety pounds wherein the sheet forms a plane and further wherein the antimicrobial surface is made of polyethylene having silver zeolite;

forming indentations in the sheet wherein the indentations are spaced uniformly across the sheet;

positioning the sheet on a surface wherein the bottom surface of the sheet is adjacent to the surface wherein the surface is a substantially flat surface wherein the sheet covers the surface; and

positioning an object on the antimicrobial surface wherein the object is within the perimeter of the sheet wherein the object is separated from the surface by the sheet.

- Claim 53: The process of Claim 51 further comprising the step of: wrapping the antimicrobial surface around the object.
- Claim 54: The process of Claim 51 further comprising the step of: enclosing the object within the sheet wherein the object is surrounded by the antimicrobial surface.
- Claim 55: The process of Claim 51 further comprising the step of: separating a liquid from the object on the antimicrobial surface wherein the liquid is located on the top surface of the sheet.



SUPPLEMENTAL APPENDIX

EXHIBIT A



United States Patent and Trademark Office

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10/659,089 09/10/2003 Anthony S. Salemi MEG-P-03-001 2725 29013 7590 10/26/2007 PATENTS+TMS, P.C. 2849 W. ARMITAGE AVE. CHICAGO, IL 60647 MAIL DATE DELIVERY MODE 10/26/2007 PAPER			•		•	
29013 7590 10/26/2007 PATENTS+TMS, P.C. 2849 W. ARMITAGE AVE. CHICAGO, IL 60647	APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
PATENTS+TMS, P.C. 2849 W. ARMITAGE AVE. CHICAGO, IL 60647 ART UNIT PAPER NUMBER 1791 MAIL DATE DELIVERY MODE 10/26/2007 PAPER	10/659,089	09/10/2003	Anthony S. Salemi	MEG-P-03-001	2725	
2849 W. ARMITAGE AVE. CHICAGO, IL 60647 ART UNIT PAPER NUMBER 1791 MAIL DATE DELIVERY MODE 10/26/2007 PAPER				EXAM	INER ·	
ART UNIT PAPER NUMBER 1791 MAIL DATE DELIVERY MODE 10/26/2007 PAPER	2849 W. ARMITAGE AVE.			CORDRAY,	CORDRAY, DENNIS R	
MAIL DATE DELIVERY MODE 10/26/2007 PAPER	. CHICAGO, IL	. 60647		ART UNIT	PAPER NUMBER	
10/26/2007 PAPER	•			1791		
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				10/26/2007	PAPER .	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

		Application No.	Applicant(s)			
		10/659,089	SALEMI ET AL.			
	Office Action Summary	Examiner	Art Unit			
		Dennis Cordray	1791			
Period fo	The MAILING DATE of this communication app or Reply	ears on the cover sheet with the c	orrespondence address			
A SHO WHIC - Exter - If NO - Failu Any	ORTENED STATUTORY PERIOD FOR REPLY CHEVER IS LONGER, FROM THE MAILING DATE in a sions of time may be available under the provisions of 37 CFR 1.13 SIX (6) MONTHS from the mailing date of this communication. It is period for reply is specified above, the maximum statutory period were to reply within the set or extended period for reply will, by statute, reply received by the Office later than three months after the mailing and patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be tim will apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	N. nely filed the mailing date of this communication. D (35 U.S.C. § 133).			
Status						
1)🖂	Responsive to communication(s) filed on 27 Au	<u>ıgust 2007</u> .	•			
2a)⊠	This action is FINAL . 2b) ☐ This	action is non-final.				
3)[Since this application is in condition for allowar					
	closed in accordance with the practice under E	x parte Quayle, 1935 C.D. 11, 45	53 O.G. 213.			
Dispositi	on of Claims					
4)⊠	Claim(s) 30-51 and 53-55 is/are pending in the	application.				
	4a) Of the above claim(s) is/are withdraw	vn from consideration.	·			
5)	5) Claim(s) is/are allowed.					
· · · · · · · · · · · · · · · · · · ·	Claim(s) <u>30-51 and 53-55</u> is/are rejected.					
	Claim(s) is/are objected to.		· <u>.</u>			
8)[Claim(s) are subject to restriction and/or	r election requirement.	•			
Application Papers						
9)[The specification is objected to by the Examine	r.				
10)	The drawing(s) filed on is/are: a) acce	epted or b) objected to by the I	Examiner.			
	Applicant may not request that any objection to the	drawing(s) be held in abeyance. See	e 37 CFR 1.85(a).			
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).						
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.						
Priority (under 35 U.S.C. § 119					
12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of:						
1. Certified copies of the priority documents have been received.						
2. Certified copies of the priority documents have been received in Application No						
3. Copies of the certified copies of the priority documents have been received in this National Stage						
application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received.						
. "	see the attached detailed Office action for a list	or the certified copies not receive				
Attachmen	nt(s)					
	ce of References Cited (PTO-892)	4) Interview Summary				
3) 🔲 Infor	ce of Draftsperson's Patent Drawing Review (PTO-948) mation Disclosure Statement(s) (PTO/SB/08) er No(s)/Mail Date	Paper No(s)/Mail Do 5) Notice of Informal P 6) Other:				

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DETAILED ACTION

Response to Arguments

Applicant's amendments, filed 8/27/2007, have overcome the previous rejections. Therefore, the rejections has been withdrawn. However, upon further consideration and due to the amendments, new grounds of rejection are made as detailed below.

Claim Objections

Claims 53-55 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The Claims depend from Claim 52, which is nonexistent. For the purpose of this examination, it is assumed that Claims 53-55 are intended to depend from Claim 51.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 30-31, 34, 36, 38-39, 43-45, 47-48 and 55 are rejected under 35
U.S.C. 112, first paragraph, as failing to comply with the written description requirement.
The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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Claims 30-31, 34, 36, 38-39, 43-45 and 47-48 recite papers and methods for making papers having combinations of layers not described in the originally filed Specification and Claims. Although papers and processes are described for combining some of the layers in a particular order, the specific combinations of layers, adhesives and scoring recited in the rejected claims are not described. If Applicant believes the Specification and Claims as originally filed do support the specific combinations, the Examiner requests that the specific page and lines providing such support for each claim be provided in the response to this Office Action.

Claims 30 and 34 recite "providing a plurality of depressions uniformly spaced across the first side of the sheet." The instant Specification does not disclose a plurality of depressions uniformly spaced across the first side of the sheet.

New Claim 55 recites that the liquid separated from an object on the antimicrobial surface is located on the top surface of the sheet. The original Specification discloses that the liquid is associated with the indented texture of the sheet (p 8, 6th par) or that the paper channels liquids off of the indented antimicrobial paper to prevent liquid pooling and/or slippage caused from liquid pooling (p 9, 6th par). Page 15, lines 2-12 describes a process of using the antimicrobial paper by placing the antimicrobial paper on a surface, such as the base of a box, a shelf, a table, a pan, a cage, a floor, a tray, a cart, a seat or the like, which surface can be located in a kitchen, laboratory, warehouse, animal cage, storage room, hospital room, examination room or the like. Page 17, lines 13-15 recite that the high points 6 and low points 8 keep food or objects from slipping from the indented antimicrobial paper 10 onto the surface. The surface

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referred to is obviously the surface upon which the indented antimicrobial paper is placed. Page 17, lines 28-31 state, "Moreover, the high points 6 and the low points 8 may force liquids into the channels 7 and/or move the liquids through the channels 7 from the indented antimicrobial paper 10 onto the surface." It is apparent from the preceding discussion of the instant Specification that the paper is designed to move liquids through the channels 7 from the indented microbial paper 10 (i.e.-from the paper surface) and onto the surface (surface on which the paper is placed) to prevent liquid pooling on the indented antimicrobial paper. Nowhere is it stated that the separated liquid is located on the top surface of the sheet.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 30, 32-34, 37, 41, 44-51 and 53-55 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 30 and 34 recite "providing a plurality of depressions uniformly spaced across the first side of the sheet." Claim 32 recites "providing a plurality of channels in the sheet." Claim 33 recites "providing a plurality of depressions in the sheet." Claim 44 recites "forming channels in the sheet." The Specification recites on p 6, lines 19-21 "the process has the step of forming an indentation in the sheet." The title and drawings reveal an indented multilayered antimicrobial paper, not a paper only having channels or depressions in the base sheet or in one side of the base sheet. The descriptions of

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the flowcharts for producing the paper recite that "the layer combination ... may be pressed with, for example, an indentor to texture the layer combination with the high points 6 and the low points 8 and the channels 7." (p 20, lines 23-27). Similar recitations are found on p 22, lines 1-4; p 23, lines 9-12; p 24, lines 20-23 and at several other locations. From the conflicting disclosures, it is not clear how the indentations are intended to be incorporated into the antimicrobial paper.

Claim 32 recites the limitation "scoring the first water resistant layer." There is insufficient antecedent basis for this limitation (first water resistant layer) in the claim since only one water resistant layer is claimed.

Claim 34 recites "adhering a paper layer to the sheet" but fails to recite whether the paper layer is adhered to the first side of the sheet, the second side of the sheet, among the plurality of water resistant layers, on top of the antimicrobial layer or at any other of the possible locations, thus making the structure of the paper indefinite.

Claim 37 recites a paper layer connected to the top side of the base and located between the antimicrobial surface and the base, but fails to recite the location of the paper layer in relation to the first water resistant layer, which is also located between the antimicrobial surface and the base, thus making the structure of the paper indefinite.

Claim 41 recites a plurality of paper layers connected to the top side of the base and located between the antimicrobial surface and the base, but fails to recite the location of the plurality of paper layers in relation to the first water resistant layer, which is also located between the antimicrobial surface and the base, thus making the structure of the paper indefinite.

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Claim 43 recites a second water resistant layer connected to the antimicrobial surface, but fails to recite whether the second water resistant layer is connected to the top side or to the bottom side of the antimicrobial surface, thus making the structure of the paper indefinite.

Claim 46 recites "connecting a first water resistant layer to a bottom side of the antimicrobial layer, but fails to define what is considered to be the "bottom side." The sheet of Claim 44, from which Claim 46 depends, only recites a first side and a second side.

Claim 48 recites "connecting a paper layer to the first side of the sheet wherein the antimicrobial layer is connected to the paper layer," but fails to recite the location of the paper layer in relation to the first water resistant layer, which is located between the antimicrobial surface and the base, thus making the structure of the paper indefinite.

Claims 49-50 recite shredding the sheet or dividing the sheet into a plurality of sheets. Claims 49-50 depend from Claim 44, which recites a process for making a paper by connecting various layers to a sheet having a first side and a second side. It is not clear if the sheet, assumed to be the sheet having a first side and a second side, is to be shredded or cut into a plurality of sheets prior to connecting the other various layers thereto or if the sheet is somehow shredded or cut into a plurality of sheets after the layers are connected. In the latter case, are the connected layers intended to be shredded or cut as well?

Claim 51 recites a sheet having "a top surface and a bottom surface" as well as a water resistant layer residing "between the top surface and the bottom surface." The

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sheet is apparently one layer and it is not clear how the water resistant layer can reside between the top and bottom surfaces of the sheet layer.

Claim 51 also recites "forming indentations in the sheet." It is not clear how a step of forming indentations in the sheet relates to a method for using the the paper to protect against contamination.

Claim 53 recites "wrapping the antimicrobial surface around the object." It is not clear if the intent is to only wrap the antimicrobial surface, which is one layer of the paper, around the object or if the entire paper comprising the antimicrobial surface is wrapped around the object.

Claims 45 and 47 depend from Claim 44 and inherit the indefiniteness thereof.

Claims 54 and 55 depend from Claim 51 and inherit the indefiniteness thereof.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 30-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santelli (US 2004/0071902) in view of Trogolo et al (6436422) and Nakamura (6179141) and further in view of Otten et al (6274232).

Santelli discloses a process for making a biocide containing laminate comprising:

- providing a plastic film having first and second sides, which are opposite one another,
- treating the first side of the film with a corona discharge (scoring) to make it receptive to adhesives,

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cold laminating (connecting) a paper sheet to the plastic film,

associating a biocide (bacteriocide, fungicide, pesticide, moldicide, mildicide, viricide) with the laminate (p 2, par 19; p 3, pars 28 and 30).

The Examiner considers the recited biocides to be antimicrobials. The particular biocide can be selected by one of ordinary skill in the art for the intended purpose (p 3, par 26). The plastic film can be polyethylene, thus forming a water resistant layer, (p 3, par 29; p 5, pars 52 and 53). Additional paper and plastic layers can be applied using adhesive cold lamination to form laminates having multiple plastic and paper layers. Laminates of paper-plastic, paper-plastic-paper, plastic-paper-plastic, plastic-paper-plastic-paperplastic, paper-plastic- plastic, paper-plastic-plastic -paper, paper-plastic-paper-plastic are specifically recited (p 2, pars 19 and 21; p 3, par 34; p 4, par 42; p 5, pars 50 and 54). The biocide can be applied in a variety of ways depending on the form of the laminate (p 3, par 27). When multiple layer laminates are made, multiple biocide applications can be made to the paper layers or the adhesives (p 5, par 50). The biocide can be applied by spraying, brushing or dipping (p 4, par 37). The laminate is made as a sheeting material, which the Examiner construes as being substantially flat and forming a plane, and can further be made into a pouch, envelope or container, wrapped around an article (e.g.-food), or made into a tape for sealing a carton (p 5, pars 47-49, 51 and 53). The sheets inherently have a length and a width.

In the disclosure of Santelli, one layer can be called the "sheet having a first side and a second side" or "base having a top side and a bottom side" of the instant claims and the one or more plastic layers are water resistant layers. The paper layers or

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adhesive layers between the plies can contain biocidal material thus can be antimicrobial layers. Thus, in a multilayer laminate, one or more water resistant layers and a paper layer can be located between the "sheet having a first side and a second side" or "base having a top side and a bottom side" and an antimicrobial layer. Further, the top and bottom layers can be antimicrobial layers. For instance, a paper-plastic-plastic –paper laminate can comprise, in sequence, an antimicrobial layer, a water resistant layer, a base sheet and an antimicrobial layer. Absent evidence showing special or surprising advantages of a particular structure, one of ordinary skill in the art would have readily envisioned any of the claimed combinations of layers from the disclosure of Santelli.

While the order of assembly of the laminates of Santelli differs from the claimed process, no evidence has been provided to demonstrate that the sequence of laminating the layers is critical to the instant invention and performing the laminating steps in any sequence would have been obvious to one of ordinary skill in the art in the absence of evidence of new or unexpected results. Ex parte Rubin , 128 USPQ 440 (Bd. App. 1959) (Prior art reference disclosing a process of making a laminated sheet wherein a base sheet is first coated with a metallic film and thereafter impregnated with a thermosetting material was held to render prima facie obvious claims directed to a process of making a laminated sheet by reversing the order of the prior art process steps.). See also In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results).

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Santelli does not disclose an antimicrobial layer of polyethylene containing silver zeolite or a plurality of depressions or channels in the sheet.

Trogolo et al discloses that an antibiotic low density polyethylene having 20 wt.% silver containing zeolite is commercially available and is used to make an antimicrobial coating for application to various substrates by spraying or dipping (Abs; col 5, lines 4-21 and 42-47; col 6, lines 1-7 and 51-53).

Nakamura discloses an antimicrobial layer for preventing bacteria from entering an airtight container. The antimicrobial layer comprises silver zeolite in polyethylene (col 1, lines 7-16; col 5, lines 3-13).

Trogolo et al and Nakamura do not disclose depressions or channels in the sheet.

Otten et al discloses an absorbent and cut resistant sheet comprising multiple layers, including an absorbent layer, a polymeric cut resistant layer, a cover layer that includes anti-bacterial agents and a liquid impervious backing layer. The backing layer can also contain antibacterial agents (Abs; col 1, lines 12-17; col 3, lines 26-33; col 3, line 64 to col 4, line 21; col 5, lines 24-28 and 61-65; col 6, lines 58-65; col 7, lines 14-16). The cut resistant layer has a plurality of openings punched, pressed or moulded into the layer to provide drainage of liquids at the cutting surface to the surface of the lower absorbent layer (col 4, lines 45-56; Fig 1). Figure 1 shows these openings arranged in rows extending across the length and width of the layer. The cut resistant layer can also comprise a plurality of fold lines that are grooves (or channels) extending across the entire sheet, and which are formed by pressing, embossing or moulding (col

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5, line 66 to col 6, line 10). The fold lines allow easier folding of the sheet for handling or disposal (col 6, lines 25-32). The sheet protects a countertop during food preparation (col 1, lines 10-26).

Santelli, Trogolo et al, Nakamura, Otten et al and the instant invention and the instant invention is analogous as pertaining to treating laminates to impart antibiotic or antimicrobial properties thereto. It would have been obvious to one of ordinary skill in the art to apply a commercially available polyethylene containing silver zeolite to one or more paper layer to form an antimicrobial layers in the laminate of Santelli in view of Trogolo et al and Nakamura as a well known antimicrobial composition usable with food items. It would also have been obvious to provide a plurality of depressions too allow drainage of liquids away from the surface contacting food or other objects.

Alternatively, it would have been obvious to provide a plurality of grooves to facilitate handling and disposal of the sheet.

Claims 49-51 and 53-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santelli in view of Trogolo et al and Nakamura and further in view of Otten et al, as used in the preceding rejection, and even further in view of Weder (5921062).

The disclosures of Santelli, Trogolo et al, Nakamura and Otten et al are used as above. Santelli discloses using the antimicrobial laminated paper for forming a package to protect a food substance (Abs). Santelli, Trogolo et al, Nakamura and Otten et al do

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not disclose shredding the sheet or dividing the sheet into a plurality of sheets, nor do they disclose the method of using the paper to protect against contamination.

Weder discloses a packaging sheet having an antimicrobial agent (Abs). The sheet comprises a base sheet with portions thereof that permit selective control of the atmosphere to which the contents are exposed and an antimicrobial agent disposed thereon (surface antimicrobial layer) (col 4, lines 45-54; col 7, lines 46-47). The sheet has an upper and a lower surface and may comprise multiple layers connected together or adhered together by bonding material (col 4, lines 64-66; col 5, lines 26-32; col 6, lines 22-23). The sheet can comprise thermoplastic or paper layers (col 7, lines 14-24). The antimicrobial material layer can be applied by spraying, brushing, immersion, or in a label, sticker or decal applied to the sheet (col 8, lines 55 to col 9, line 9). The antimicrobial layer can be a second sheet of material connected to the base sheet (col 9, line 55-58).

Weder discloses that a plurality of the packaging sheets can be connected linearly and rolled. Preferably the plurality of sheets are connected by perforations (Fig 5) such that they may be separated from the roll (col 10, lines 13-22), thus dividing the sheet into a plurality of sheets. Figure 5 shows a row of perforations (indentations) spaced uniformly across the sheet. The sheet can also be shredded into small pieces for decorative purposes (col 7, lines 8-11; col 11, lines 39-46, Fig 11).

Weder discloses a method of using the sheet to protect an object (cols 12-14 and 18-19; Claims 1-4) by wrapping the sheet around the object (Figures 12-15 and 16-19) or to completely enclose an object (Figures 29-30 and 32-33). The sheet, shown with a

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perimeter larger than the object to be wrapped, is placed on and covers a flat surface (Figs 12, 16 and 29). The object is placed on the sheet within the perimeter of the sheet and the sheet separates the object from the surface. The sheet is wrapped around the object (Figs 13-14,17-19) or the object is completely enclosed (Figs 29, 30, 32 and 33) in the sheet. The object is thus protected by the antimicrobial surface (Claims 1-4).

Although Weder does not expressly disclose that the object is placed on the antimicrobial surface, it would have been obvious to one of ordinary skill in the art to do so to take full advantage of the antimicrobial properties of the sheet.

The art of Santelli, Trogolo et al, Nakamura, Otten et al, Weder and the instant invention is analogous as pertaining to antimicrobial paper and the use thereof. Both Santelli and Weder disclose the use of the antimicrobial paper to enclose and protect food. It would have been obvious to one of ordinary skill in the art to protect food or another object by wrapping or enclosing it with the flexible sheet of Santelli in view of Trogolo et al and Nakamura and further in view of Otten et al using the method of Weder as a known and functionally equivalent option. Liquids on the antimicrobial surface would be separated from the food or object thereon and drain through the openings to the top surface of the sheet below, as taught by Otten et al.

The instant Claims recite a broad range of weight for the antimicrobial paper. Since the instant Disclosure recites no particular inventive advantage for using paper of the claimed weight, but merely recites "a weight range between, for example, 16.5 pounds and 90.00 pounds" (p 16, lines 1-2), it would have been obvious to one of ordinary skill in the art to use a paper of any weight, including the claimed range, as a

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functionally equivalent option and have a reasonable expectation of success. It would also have been obvious to shred the paper and use the shreds in a decorative manner as a known use for such papers to minimize fungal and bacterial growth on the decorations.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

OPL DBC STEVEN P. GRIFFIN SUPERVISORY PATENT EXAMINER TECHNOLOGY CEMTER 1700

EXHIBIT B



United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov



APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/659,089	09/10/2003	Anthony S. Salemi	MEG-P-03-001	MEG-P-03-001 2725	
	7590 01/22/2008		EXAMINER		
PATENTS+TMS, P.C. 2849 W. ARMITAGE AVE.			CORDRAY, DENNIS R		
CHICAGO, IL	60647		ART UNIT	PAPER NUMBER	
			1791		
		·	MAIL DATE	DELIVERY MODE	
	•		01/22/2008	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

· •			
	Application No.	Applicant(s)	
Advisory Action	10/659,089	SALEMI ET AL.	
Before the Filing of an Appeal Brief	Examiner	Art Unit	
	Dennis Cordray	1791	
The MAILING DATE of this communication appe	ears on the cover sheet with the c	orrespondence addr	ess
THE REPLY FILED 11 January 2008 FAILS TO PLACE THIS A			
 The reply was filed after a final rejection, but prior to or or this application, applicant must timely file one of the follow places the application in condition for allowance; (2) a Notal Request for Continued Examination (RCE) in compliant time periods: The period for reply expires 3 months from the mailing date 	n the same day as filing a Notice of wing replies: (1) an amendment, aft otice of Appeal (with appeal fee) in ce with 37 CFR 1.114. The reply m	Appeal. To avoid abar idavit, or other eviden- compliance with 37 CF	ce, which R 41.31; or (3)
b) The period for reply expires on: (1) the mailing date of this no event, however, will the statutory period for reply expire Examiner Note: If box 1 is checked, check either box (a) or	Advisory Action, or (2) the date set forth later than SIX MONTHS from the mailin	g date of the final rejection	on.
TWO MONTHS OF THE FINAL REJECTION. See MPEP 7	'06.07(f).		
Extensions of time may be obtained under 37 CFR 1.136(a). The date have been filed is the date for purposes of determining the period of exunder 37 CFR 1.17(a) is calculated from: (1) the expiration date of the set forth in (b) above, if checked. Any reply received by the Office late may reduce any earned patent term adjustment. See 37 CFR 1.704(b NOTICE OF APPEAL	on which the petition under 37 CFR 1.1 tension and the corresponding amount shortened statutory period for reply orig or than three months after the mailing da	of the fee. The appropriationally set in the final Office	ate extension lee ce action; or (2) as
The Notice of Appeal was filed on A brief in compliing the Notice of Appeal (37 CFR 41.37(a)), or any external a Notice of Appeal has been filed, any reply must be filed AMENDMENTS.	ension thereof (37 CFR 41.37(e)). to	o avoid dismissal of the	s of the date of e appeal. Since
3. The proposed amendment(s) filed after a final rejection, (a) They raise new issues that would require further co (b) They raise the issue of new matter (see NOTE belo (c) They are not deemed to place the application in be appeal; and/or	onsideration and/or search (see NO ow);	TE below);	
(d) They present additional claims without canceling a	corresponding number of finally rej	ected claims.	
NOTE: (See 37 CFR 1.116 and 41.33(a)).			DTOL 004)
4. The amendments are not in compliance with 37 CFR 1.1	21. See attached Notice of Non-Co	ompliant Amendment (PTOL-324).
 5. Applicant's reply has overcome the following rejection(s 6. Newly proposed or amended claim(s) would be a non-allowable claim(s).): <u>See Continuation Sheet.</u> Illowable if submitted in a separate,	timely filed amendme	nt canceling the
7. For purposes of appeal, the proposed amendment(s): a) how the new or amended claims would be rejected is pro	☐ will not be entered, or b) ☒ winded below or appended.	ill be entered and an e	xplanation of
The status of the claim(s) is (or will be) as follows: Claim(s) allowed:			
Claim(s) objected to:			
Claim(s) rejected: <u>30-51 and 53-55</u> . Claim(s) withdrawn from consideration:		•	
AFFIDAVIT OR OTHER EVIDENCE			
 The affidavit or other evidence filed after a final action, be because applicant failed to provide a showing of good ar was not earlier presented. See 37 CFR 1.116(e). 	nd sufficient reasons why the affida	vit or other evidence is	necessary and
 The affidavit or other evidence filed after the date of filing entered because the affidavit or other evidence failed to showing a good and sufficient reasons why it is necessa 	overcome <u>all</u> rejections under appe ry and was not earlier presented. S	ear and/or appellant lail See 37 CFR 41.33(d)(1	l).
10. ☐ The affidavit or other evidence is entered. An explanation REQUEST FOR RECONSIDERATION/OTHER	on of the status of the claims after e	entry is below or attach	ied.
11. The request for reconsideration has been considered been Continuation Sheet.		n condition for allowar	ice because:
12. Note the attached Information Disclosure Statement(s).	(PTO/SB/08) Paper No(s)		

13. Other: ____.

Continuation of 5. Applicant's reply has overcome the following rejection(s): Applicant's reply has overcome the following rejection(s): Rejection under 35 U.S.C. 112 second paragraph of Claims 31 (mistyped as claim 32), 46 and 49-50. In addition, the objection to Claims 53-55 has been overcome.

Continuation of 11. does NOT place the application in condition for allowance because: The amended claims have overcome certain rejections under 35 U.S.C. 112 and the objections detailed in the prior Final Action dated 10/26/2007. Applicant's amendments have failed to correct all of the issues raised under 35 U.S.C. 112. For instance, no amendment or discussion was presented in regard to the rejections of Claims 30, 34 or 55 under 35 U.S.C. 112 first paragraph. Similarly, rejections of Claims 30, 34 (first rejection), 37, 41, 43, 48, 51 and 53 under 35 U.S.C. 112 second paragraph were not discussed or overcome. No arguments were presented with respect to the rejections over prior art. All outstanding rejections not indicated herein as overcome are maintained for the reasons given in the Final Action.

QRC

ERIC HUG

EXHIBIT C

BIOCIDE CONTAINING LAMINATE AS TAPE OR PACKAGING MATERIAL

BACKGROUND ART

[0001] The invention relates generally to biocide containing laminates for use in a wide variety of products, including pouches or containers forming an envelope for protectively packaging food substances, written materials, and other products. The laminate includes a layer of paper and at least one ply of an oriented synthetic plastic film that imparts high strength and tear resistance. Other products bags and other dilatable container products that initially are in a flat state and are normally made of paper, or tape or other adhesive-backed laminate sheetings.

[0002] Pouches or containers for storing and dispensing flowable or solid food substances and other more or less perishable products are usually fabricated of a multi-ply laminate sheeting forming an envelope to protect the contents of the package and prolong its shelf life. The shelf life of a packaged product depends on the degree to which it is isolated from the atmosphere in which the package is placed.

[0003] One well-known form of pouch serves to package a condiment such as mustard, ketchup or a hot dog relish, which is dispensed by tearing an opening in the pouch and then squeezing the pouch to extrude the condiment therefrom. This pouch is formed of a laminate sheeting whose outer ply is a clear polyester film, the inner face of which is printed to identify the contents. The outer film ply is adhesively laminated to an intermediate ply of metal foil that in turn is adhesively laminated to an inner ply formed of polyethylene film.

[0004] The three plies that together create this laminate sheeting have distinctly different properties. The outer polyester film ply imparts strength and tear resistance to the pouch, the intermediate metal face ply acts as a moisture barrier, while the inner polyethylene ply facilitates sealing of the pouch.

[0005] The reason that a metal foil or a metallized plastic film is often included in laminate sheeting from which a pouch is fabricated to package food is because plastic films, even those of exceptional tensile strength, have some degree of porosity. As a consequence, a pouch formed entirely of plastic film material will exhibit a moisture vapor transmission rate (MVTR) that is often unsuitable in a food container. The transfer of moisture through the envelope of a food pouch reduces its shelf life, and a moisture barrier is therefore desirable.

[0006] A serious drawback of multi-ply laminate sheeting of the type heretofore used for fabricating pouches and other packaging material, does not entirely reside in the structure of the sheeting, but rather in the environmental conditions which prevail in the course of producing the sheeting.

[0007] Most industrial adhesives used to interlaminate the several plies of the laminate sheeting include volatile chemical solvents that in the course of curing the adhesive are volatilized. The resultant noxious fumes that are driven off into the atmosphere are environmentally objectionable. It becomes necessary, therefore, in the plant in which the pouch laminate sheeting is produced, to provide filtration and other equipment to capture and treat the noxious fumes. This requirement adds substantially to the cost of production.

[0008] In those instances where hot melt adhesives are used to join the plies of a laminate sheeting, not only do some of these adhesives give off objectionable fumes, but the heat involved may have adverse effect on the plies to which the hot melt adhesive is applied. Thus, if one of the plies is a synthetic plastic film that has been uni-axially or bi-axially oriented to enhance its tensile strength, this orientation will be impaired by heat, for heat acts to relax the film and in doing so, to destroy its orientation and strength.

[0009] Of background interest are U.S. Pat. No. 4,790,429 to Fukushima and U.S. Pat. Nos. 3,989,640 and 4,724,982 to Redmond. These patents disclose various forms of pouches and containers for food products formed of plastic film material. The food pouch disclosed in U.S. Pat. No. 3,366, 229 to Sanni uses a laminated sheeting of thermoplastic film and paper so that seal lines can be produced by thermal welding. U.S. Pat. No. 4,806,398 to Martin shows a carton for liquid formed by a paper substrate having bonded to one side a polyethylene film and to the other side a polyolefin film to provide a liquid-impermeable laminate that lends itself to thermal bonding. A similar container is shown in U.S. Pat. No. 3,404,988 to Rawing

[0010] There is also a need for materials that can be used for packaging or mailing of various items. In the past, such materials were made from plastics or Kraft or other paper, the latter optionally coated with polymers or plastic films. The plastics or polymers provide resistance to moisture, such as would be encountered from rain or snow during times when the package is being shipped.

[0011] The sheeting traditionally used in making packaging materials such as envelopes, grocery bags and other types of dilatable container products that initially are in a flat state, is paper. Paper is a semi-synthetic material made by chemically processing cellulose fibers. Apart from its low cost, an important advantage of paper is that it can be converted into envelopes and other types of dilatable container products by means of high speed equipment that functions to cut and fold the sheeting into the desired configuration, the folds and flaps of the product being bonded together, where necessary, by standard low-cost adhesives. Another advantage of paper in this context is that it can readily be printed and colored, using standard inks for this purpose. But such paper products suffer from several disadvantages, for they are characterized by low tear and burst strength, and are by no means water resistant; for unless coated, paper is highly absorbent.

[0012] A number of packaging products have been made from materials that are paper-based but that have greater strength or durability. These products are made of heavy weight paper and cardboard or other pressed paperboard products. Corrugations or other configurations can be used to further strengthen the product without adding excessive weight. While these products are useful for a variety of applications, they still have deficiencies in that the cardboard materials can be damaged by impact and moisture. Of course, when wet, the material can deteriorate or be damaged more easily. For these reasons, cardboard packaging products can be coated with a moisture-resistant or water-repellant coating, but this significantly increases the costs of such products.

[0013] Also well known in the art are plastic-coated cellulosic papers, these being used chiefly in children's

books, posters, signs and shipping tags, and for other purposes demanding resistance to hard wear and to outdoor exposure. Such plastic-coated papers lack high tear and burst strength. Also low in strength are special purpose coated papers covered on one or both sides with a suspension of clays, starches, rosin or wax, or a combination of these substances. To overcome the drawbacks of paperfabricated dilatable container products, in recent years such products have been made of TYVEC or other polymeric synthetic plastic sheeting. The resultant products not only have a tear and bursting strength far superior to paper, but they are also waterproof. But TYVEC and similar synthetic plastic sheeting materials are difficult to convert into envelopes and other dilatable container products using highspeed equipment of the type mainly suitable for paper. As a consequence, production scrap rates can run as high as thirty percent, thereby raising the cost of manufacturing these products. Moreover, such plastic sheeting has a low chemical affinity for standard adhesives; hence in the case of envelopes, one must then use a special and more costly adhesive on the flaps. And such plastic sheeting also has a low affinity for standard printing inks, and the products, therefore, demand special printing inks for this purpose.

[0014] One particular packaging material that resolves many of these problems is disclosed in U.S. Pat. No. 5,244,702 to Finestone et al., where an envelope is made from a laminate of a plastic film that is adhesively cold laminated between two layers of paper. The paper layers enable the laminate to be printed, colored or marked with indicia, while the plastic film provides resistance to tearing and resistance to deterioration by contact with moisture or rough handling.

[0015] While the envelope materials of the Finestone et al. patent are suitable for many applications, there are situations when the contents of the package must be protected from organisms such as insects, bacteria or other contaminants that can deleteriously affect products that are packaged with such materials, and in particular, food products.

[0016] Certain packaging materials have been made with biocidal materials in an attempt to protect the contents of the package from such organisms. For example, US Pat. No. 4,988,236 discloses a polymeric tape that includes a biocide that is incorporated in the polymer in an amount effective to provide biocidal activity on the surface of the tape. Typically, the biocide is added to polymer pellets and the film is formed from the mixture. The resulting biocide containing film is generally used as an outer layer of the tape so that the biocide can leach from the polymer after the tape is applied to a package. This material has disadvantages in that the addition of the biocide to the polymer that is used to form the film reduces the properties of the resultant polymer film.

[0017] Also, U.S. patent application Ser. No. 2001/0041238 A1 discloses an adhesive coated, peelable protective films and labels, wherein the adhesive may contain among many other components, a biocide. While the addition of a biocide to an adhesive is a more convenient way to incorporate it into the tape, it can be removed when the adhesive is activated for application to a package or the like.

[0018] Thus, there remains a need for improved packaging materials or tapes that contain biocides. In addition, the resulting materials or tapes should be resistant to moisture while still being capable of receiving printing or other

marking indicia. The present invention now provides new materials that satisfy all these needs.

SUMMARY OF THE INVENTION

[0019] The present invention now provides a method for making an organism-resistant laminate of plastic and paper. This method includes the steps of providing a plastic film having first and second sides; corona discharge treating the first side of the plastic film; providing a paper sheet having first and second sides; adhesively cold laminating the corona discharge treated first side of the plastic film to the first side of the paper sheet using a water-based adhesive and pressure to form a paper-plastic laminate; and associating a biocide with the laminate in an amount sufficient to render it resistant to attack from organisms. The useful biocides include bacteriocides, fungicides, pesticides, moldicides, mildicides or viricides.

[0020] In one embodiment, the biocide is associated with the paper sheet before the laminate is prepared. This is conveniently achieved by contacting the paper sheet with an aqueous solution or suspension of the biocide and then drying the paper sheet. In another embodiment, the biocide is associated with the water-based adhesive that is utilized to cold laminate the plastic film to the paper sheet. This may be accomplished by combining an aqueous solution or suspension of the biocide with the adhesive to make a biocide containing adhesive mixture before utilizing the mixture to cold laminate the plastic film and paper sheet together.

[0021] A paper-plastic-paper laminate can be prepared by corona discharge treating the second side of the plastic film; and adhesively cold laminating the corona discharge treated second side of the plastic film to a side of a second paper sheet using a water-based adhesive and pressure. This laminate can be used as is as a packaging material, or one of its outer surfaces can include an adhesive after treatment of that surface by corona discharge. Any type of adhesive can be applied.

[0022] The invention also relates to the biocide containing laminates described herein as well as to the use of those laminates as organism-resistant packaging materials. A preferred use of the material is as an organism-resistant package where the laminate is configured and dimensioned as an envelope, packaging material, or container. In this embodiment, the laminate can be folded to form the envelope or container and an adhesive applied to one or more portions of the folded laminate to facilitate closure and/or sealing.

[0023] A preferred embodiment of the package is as a container of a dilatable material that is configured and dimensioned to retain one or more articles therein and which includes the laminate described herein with applied adhesive to close and seal the article(s) in the container. The dilatable material may be a cardboard box having flaps that are folded to form the box and the laminate in the form of a tape product is applied to secure the flaps and seal the articles in the box. Instead, the laminate of dilatable material may be in the form of an envelope or container with adhesive being applied thereto for forming a closing portion for the envelope or container. The package may include two superposed panels of the laminate that are marginally sealed together to define a pocket to accommodate the article(s).

[0024] The laminate may also be formed into a tape by applying an adhesive to all or a portion of one of the surfaces

EXHIBIT D

EXHIBIT E

EXHIBIT G

RELATED PROCEEDINGS APPENDIX

NONE